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台灣地區市售各類人參屬藥材及人參製劑之品質評估

人參自古以來，即爲常用之高貴中藥，台灣市售各類人參屬藥材種類繁多，依其原植物基原，主要可分爲三大類：

1.*P.anax ginseng* C.A.Meyer

①紅參：韓國高麗參、日本紅參、大陸吉林參。

②白參。

③東洋參（太極參）

2.P*quinquefolius* L.

西洋參、八百光（粉光參鬚）、粉光參

3.P.*notoginseng* (Burk) Chen

川七（田七）。

上述各類藥材，由於產地不同，其市場價格相差極大，另韓國高麗參亦因其形狀大小而分天、地、良、尾等級，其價格亦有很大之差別。

本研究應用水、正丁醇、乙醇等作萃取或沈澱，分別測定其全水抽出物，多醣部分，皂苷部分及非皂苷非多醣部分含量比例，並利用 HPLC 分析各類人參中，各主要人參皂苷 Rg1, Re, Rd, Rc 及 Rb1之含量，做爲品質鑑定之依據。

研究結果顯示，三種人參屬藥材中，其多醣類部分以人參最高，西洋參次之，川七最低，唯皂苷部分含量則以川七最高，西洋參次之，人參最少。另不同產地及等級之人參中，其主要化學組成差異並不大。以 HPLC 分析結果亦大致與化學萃取或沈澱之結果相同。

（本文由張永勳・何玉鈴・翁賜信・黃順爵・謝明村先生撰寫）

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Chemical Evaluation of *Panax* Species and Their Preparations Commercially Available in Taiwan

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Ginseng has been the most commonly used Chinese herbs since ancient time. In Taiwan, various grades of *Panax* species which belong to the following three major species are available:

1. *Panax ginseng* C.A. Meyer
   a. Red ginseng: Korean Ginseng, Japanese ginseng, Manchurian ginseng
   b. White ginseng:
   c. Tong-Yang ginseng:
2. *P. quinquefolius* L.
3. *P. notoginseng* (Burk) Chen

The market price of the above mentioned ginseng species differs greatly through different sources. Korean ginseng is also divided into Heaven, Earth, Good and Tail major grades from the morphology of the roots.

This study utilized water, 1-butanol, and ethyl alcohol to extract or precipitate and determined the yield of total water extract, polysaccharide, saponin and non-saponin, non-polysaccharide fractions of each ginseng species. Additionally, analysis of the content of each major ginsenosides (Rg_1, Re, Rd, Rc and Rb_1) by HPLC was also performed in order to provide chemical basis for identification of ginseng and their preparations.

The results showed that among the three ginseng species, *P. ginseng* had highest content of polysaccharide, followed by *P. quinquefolius* and *P. notoginseng*. On the other hand, *P. notoginseng* had the highest content of ginsenosides followed by *P. quinquefolius* and *P. ginseng*. However, ginseng from different sources, or various commercial grades of *P. ginseng* did not showed significant difference in their chemical compositions. The results from HPLC analysis also showed similar patterns.